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Empirical Analysis of Ride Sharing Applications in Karachi

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Abstract

This study is an empirical analysis that evaluates the performance of Ridesharing and Taxi booking applications working in Karachi. It also investigates the quality and comfort offered across different classes of rides along with the prevalence of problem experienced by the rider in each class. It is concluded that Taxi Booking or Ride sharing applications in Karachi tend to exhibit various patterns and problems across different classes and frequency of rides. It is empirically verified that Business class is less disposed to difficulties and glitches, which is an extra-advantage of Business class. However, the user experience of business class is not significantly different from the economy, which indicates that quality is not up to the mark. The level of comfort decreases with the frequency of rides, which means that it there is no cross-subsidy behaviour.

Keywords: *Ride sharing application; Taxi Booking application; User experience; Frequency of rides*

INTRODUCTION

Background of the Study

Smartphone applications have turned around the life of consumers. Prevalence of these applications ranges from food ordering to online shopping as well as from social networking to ride sharing. These applications have made their significant importance are in a wide range of spheres of life. Amidst these applications, Taxi booking or ride-sharing applications are also growing and expanding at a rapid pace. In almost every developed city, at least one such multinational application works to make commuting comfortable and fast for people. It has provided an easier way of transport at comparative prices with fair enough luxury. With the reduced burden on public transport and mass transit systems, it has helped developing world's need for commuting.

Taxi operations, for about a century, operational in any part of the world are based on the similar business model; basic services with less capital employed or skill involved. Additionally, Taxi regulation consists of financial standards such as insurance, control of entry, licensing and setting maximum rates. Despite all this, taxi is supposed to be expensive means to travel regardless of the quality of service, as an individual driver is responsible for assuring it. There

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exist various drawbacks in this service which add up to the hardship faced by customers such as peak time that restricts its availability, adding up to the customer waiting time.

In the midst of these consequences, many countries try to have deregulations in their operation so an improvement could be visible in the performance. However, such step didn't lead to any major innovation as the new entrant attracted by the deregulations come up with the same business models that were prevalent since years. With the years of consistent service and without any evolutions or value addition to the customers, there came a climax to the story; online transportation services of cars such as Uber emerged. The service was initiated to connect the drivers with the passengers and termed by Uber as ride sharing or car sharing service.

The objective difference between these online services and a traditional taxi service was the use of an online peer-to-peer platform to connect independent drivers to passengers existing in the marketplace. A user-friendly mobile application developed by these companies helps the passenger in navigating their ride, location; paying charges etc. The rates charged by these services are comparable with the traditional taxi services hence offering value addition at competitive rates. Search cost is also decreased for the customer, distance and time parameters are used as criteria to allocate charges among different classes (business, economical etc.) of rides offered. Sometimes "surge pricing" and "dynamic pricing" mechanism by advancing drivers fees during peak hours are also offered. Such organization shares a percentage of this profit with the drivers.

A taxi booking application contains two platforms: user and driver's interface. In order to set up any taxi booking or rider sharing application, there are three basic components: Server, Mapping, and Payments. A server tracks the location of both rider and driver after some fixed interval of time (for example, 5 minutes). Another significant component is the mapping feature which generally Google Maps but giants like Uber has also acquired Microsoft's Bing mapping and startup deCarta for navigation across the globe. The server takes riders' flattened coordinates as an input and a Google service GSMgeocoder translate this code into user's actual position (Abrosimova, 2017). The payment system is another basic, which is cash and/or credit card system. Some applications do not offer card payment facility. Other services such as bitcoins and other payment services can be added to the application.

Outline of the Study

This study examined the ride experience and associated problems of ride-sharing applications in Karachi from a riders' perspective. It is a comparative study, which compares the nature of problems caused by different companies and at different classes of riders offered by the company. It empirically tests the level of comfort and security offered by the companies in the economy and business class. Another objective is to investigate if ride quality is significantly different in lowest and highest class offered by the companies.

Research Statement

To investigate the problems faced by users of ridesharing and taxi booking applications across companies and classes of rides along with the level of comfort and security.

Definitions of the Key Terms

A Taxi Booking Application

It is a smartphone (Android or iOS) application, which helps the rider to meet the nearest driver available. It is a third-party application, which uses the services of drivers and charges a premium in the fare they earn.

User Experience

It is a rating variable, which measures relative ride sharing experience of a user. Its values range from 1 to 5, with 1 being the worst while 5 being relatively the best experience according to the user.

The Frequency of Ride per Week

The term "Frequency of Ride per Week" refers to the average number of rides with a Taxi in a week; a rider commutes booking application.

Cross Subsidy

It is a way of pricing in which a company charges a higher price to one customer to provide low prices for another customer.

REVIEW OF LITERATURE

Online rides sharing applications are being praised at various grounds due to the level of convenience they offer. Services improvements in the area such as fleet joining criteria; customer evaluation system; the system of benefit and punishment to the registered captain/ drivers based on customers reviews and evaluation are counted as the major reasons for making such services famous among people. Not only people lacking their personal transport but those owing it also opt for such online ride-sharing services (Fakhr El-Din, 2016).

Despite huge benefits offered to the customer by these ride-sharing services, in some cases, they are accused to add in the customer grievance. Uber although operating as global ride-sharing service is found guilty in various consumer-related issues in numerous countries of the world such as Australia, United Kingdom, Taiwan, Brazil, China, Belgium, India, United States etc. (Ansari, 2016).

Amongst the major issues, fronting these services is the element of trust not only for riders but for drivers as well. Anyone with a registered vehicle, insurance, and driver's license could be eligible to become the driver of such company, provided a clearance of background checks. A different group of people differs in their continuum of trust related to others. "Not everyone can be trusted", it is the statement often stated and commonly heard. Features implemented namely two-way feedback by some of these companies such as BlancRide, lyft and Uber are assumed to be diligently tackling the trust issues (Nicoll & Amstrong, 2016).

A study conducted by Dambrine, Jerome, and Ambrose (2015) addressed that issues related to trust can be solved by peer reviews as the ratio of people trusting peer reviews is far greater, approximately 75% trust it. People's evaluation related to any place, goods or even other people is formed on it. The inherent afraid of entering into an unknown person car can be addressed

by feedback system which is strictly constructed. An example of a ride-sharing service driver can be taken. If the drivers rating out of five decreases to 4.6, then they are faced with different risk, among which deactivation can be counted as one. Twilio for driver's number disguise and social media verifications are other some of the other tools used.

Although the claims by the company are far clearer related to the trustworthiness of its drivers but with time, the incidents emerged, giving a discredit to the company. The drivers of such services are repeated found to a part of robbery incidents and the misconduct of sexual nature with the female drivers. Talking about Pakistan, frequent news reporting such issues can be found. The passengers of Karachi and Lahore, in particular, are a victim of these rude behaviours of drivers. Girls, in particular, are figured to be threatened and harassed in such incidents (Munir, 2016).

The comparative analysis of various ride-sharing companies entails various factors; one of such factor is the conduct of drivers. The behaviour of drivers is the reason for which some people choose one ride-sharing service over another. The training of drivers; their level of courtesy in the dealing & attitude towards professionalism are all factors that count as the preference of one car-sharing service. For some people, these factors may supersede the advantage of availing low-cost service (Zafar & Raja, 2016).

Another factor that is frequently discussed related to these ride-sharing services is the "Peak factor" charge. These charges are set by the company during the peak hours in order to manage the phenomenon of demand and supply of the vehicles, hence making the cars available in busy locations with the reduction in customer waiting (Tech Desk, 2016). Customers to their detriment are increasingly making a voice against companies such actions. Most of the time they are forced to pay twice or thrice the amount of actual charge. Not only loyal customers but also occasional users are also continuously being affected by it. The reason Quoted by the company for charging high price was that these charges would ultimately benefit the customer since it will provide the incentive to drivers to drive a car in the location where there is a shortage of supply (Tahir,2017).

RESEARCH METHODOLOGY

Method of Data Collection

Primary data collected from different people living in Karachi is used for the analysis. The questionnaire is sent to people via Google Forms.

Sampling Technique

Nonprobabilistic convenience sampling technique is used for sampling of data.

Sample Size

Component total 100 observations are considered for the study of people living in Karachi.

The Instrument of Data Collection.

The questionnaire is used as an instrument of data collection. The questionnaire consisted

of eight closed-ended and two open-ended questions. Rating Variable like user experience and frequency of rides are evaluated based on the relative judgment of user. There is a variety of questions, which covers the problems faced at each level including the class of ride and across different types of Taxi booking applications.

Data Analysis Techniques

Data is analyzed using content analysis whereby different charts, tables and figures are used to summarize data.

DATA ANALYSIS

Characteristics of Respondents

A majority of people incorporated in the survey use at least one Taxi booking application, as only 12 percent people do not use such applications but they have made others use applications for them (See Figure 1).

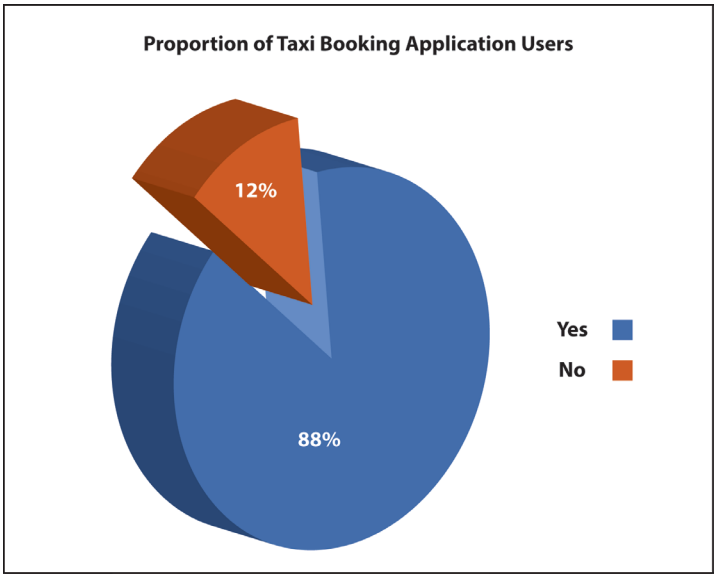

Figure 1: Taxi Booking Application Users

It is also observed in the data that only 1 percent people surveyed use Ride sharing applications other than Careem and Uber. Distribution of Riders among these companies is shown below Figure 2:

The distribution of riders across classes indicates the taste and preference of the customer (See Figure 3). The proportion of people using economy class is almost four times to that of business class. It could be because Karachi is a part of developing the world. Therefore, the majority of people opt for economy class.

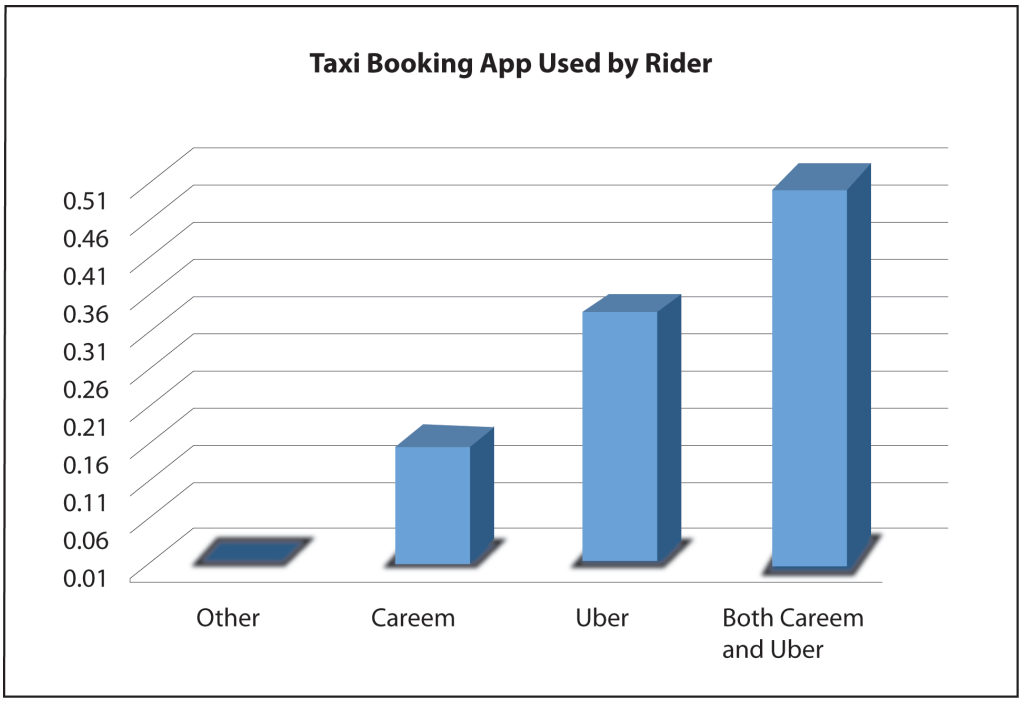

Figure 2: Distribution of Riders

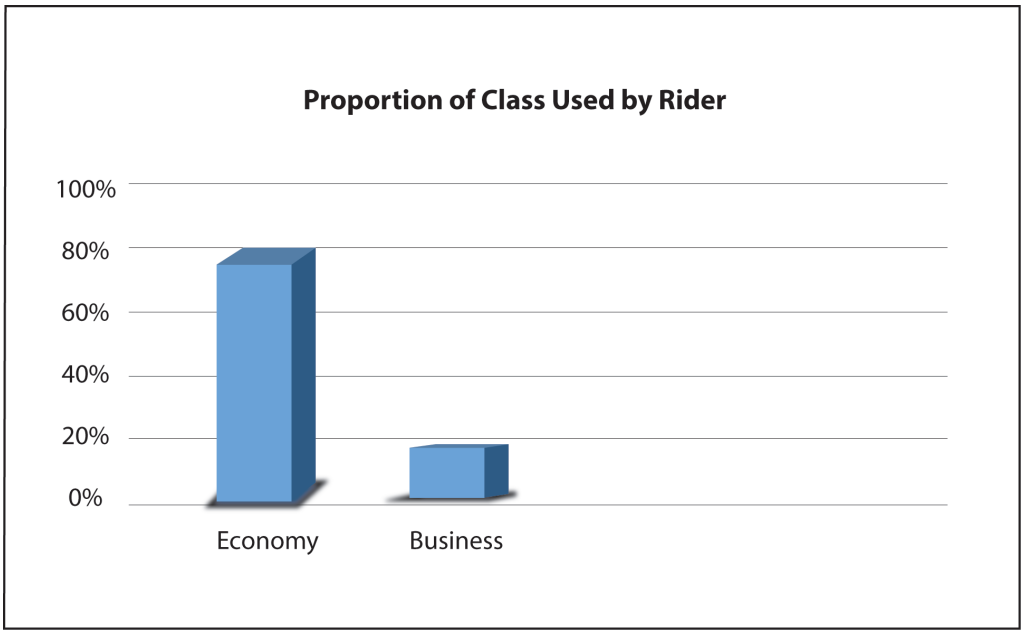

Figure 3: Proportion of Class Used by Rider

Another important characteristic is the frequency of rides people have with a ride-sharing application. The proportion of people having a certain frequency of rides decreases as weeks increase, as shown in Figure 4.

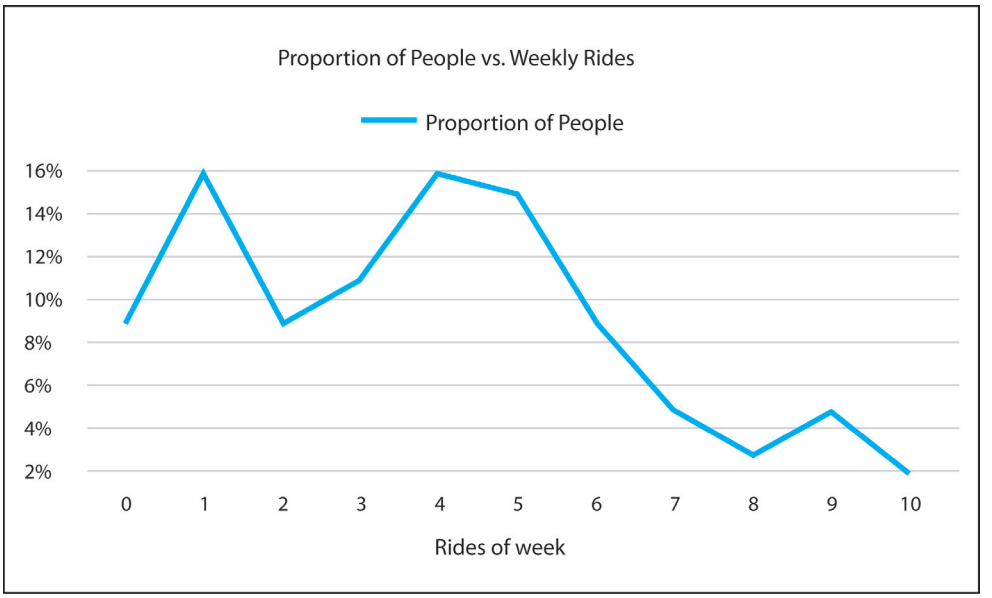

Figure 4: Proportion of People vs. Weekly Riders

MAJOR FINDINGS

User Experience Across Classes

Categories or classes are introduced to let the consumer decide the level of comfort and customize his ride according to his/her budget and preference. Generally, companies create a business class to provide extra luxury to a customer who prefers better user experience to price. It is anticipated that business or premium classes offer better user experience than that of economy class. However, at aggregate level data doesn't confirm with this expectation as suggested by Figure 5.

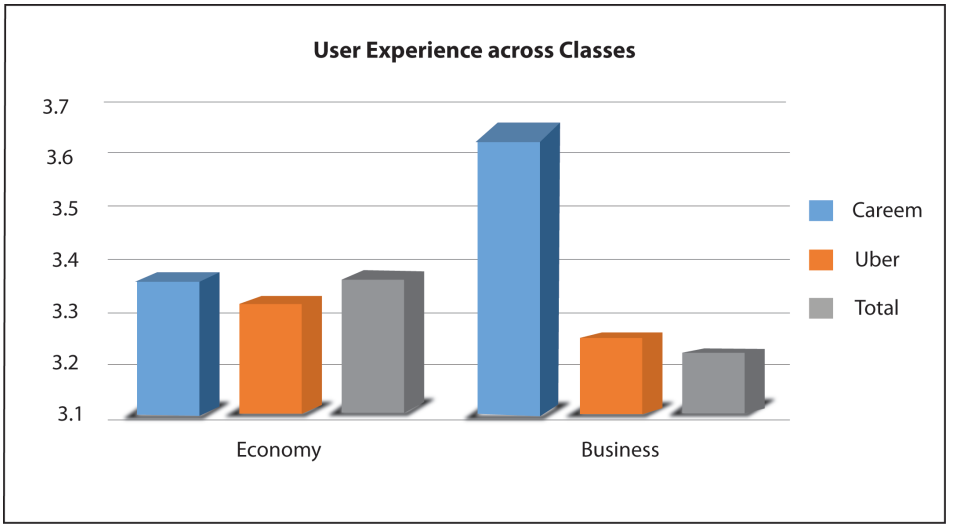

Figure 5: User Experience across Classes

In contrast to Uber, Careem offers a higher of user experience both in the economy and business class but the gap is far large when we consider it in business class.

Level of Comfort Versus Frequency of Rides

Some of the Ridesharing application is designed to reward customer disproportionately for his/her loyalty towards the company. They tend to provide cross- rides means a higher proportion of people who feel comfortable in their rides. But, data indicates the absence of such cross-subsidy to the rider by giving reliable drivers with better-conditioned cars. Therefore, it is anticipated that higher frequency of subsidy in the Karachi, as indicated by Figure 6. Therefore, empirical results negate any disproportionate favour given for customer loyalty.

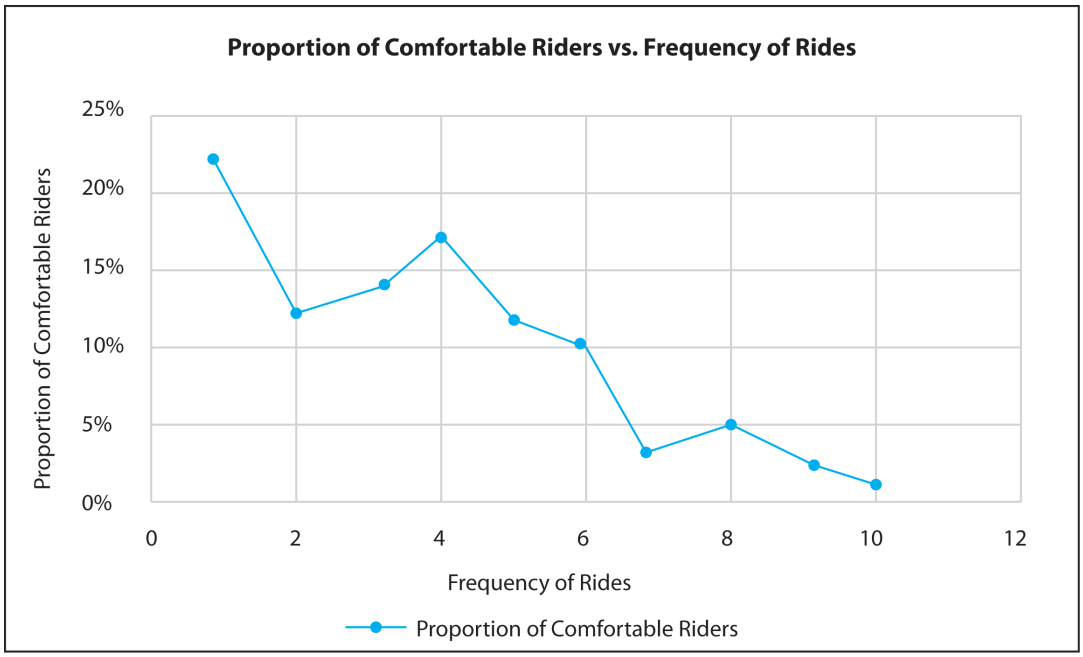

Figure 6: Proportion of Comfortable Riders vs. Frequency of Rides

Proportion of People Facing Problem Across Different Classes

As discussed earlier, Business class is designed to provide people more comfortable ride with fewer problems. Therefore, it is anticipated that people who travelled in business class tend to have fewer odds of facing any problem. Data shows similar results that Rider who travels in economy class have more than 10 percent excess proportion than that of Business class (See Figure 7).

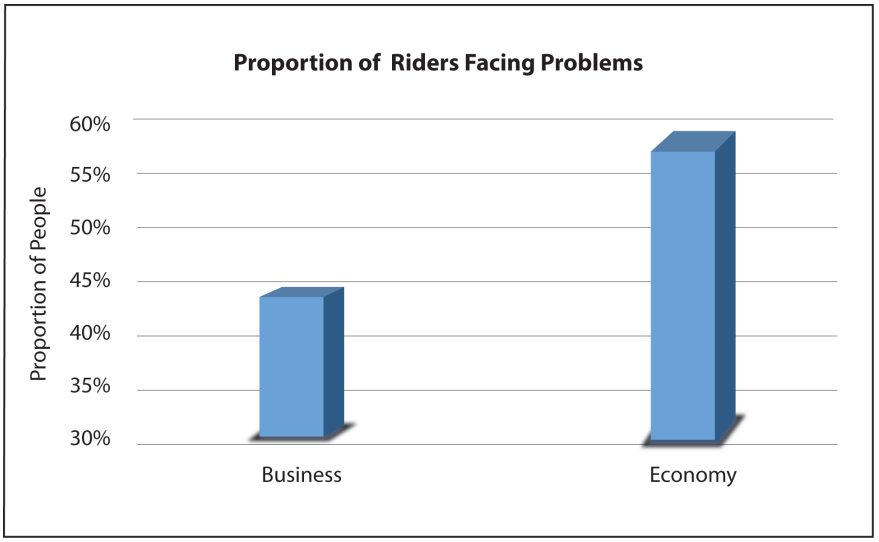

Figure 7: Proportion of Riders Facing Problems

Distribution of The Problem Faced By People

Another important finding relates to the distribution of the problem faced by people who used these ride-sharing applications. The problems which are most prevalent is rides swapping, late arrival and exceptionally high fare charged. The following table demonstrates the distribution of ride-sharing applications.

Another characteristic of this data is the distribution of the problem faced by people who used these ride-sharing applications. The problems which are most prevalent is rides swapping, late arrival and exceptionally high fare charged. The following Table 1 demonstrates the distribution of ride-sharing applications.

Table 1: Distribution of Ride-Sharing Applications

Problem	Percentage
None	*5%*
Difficulty in finding location	*6%*
Misconduct of Captain	*10%*
Late arrival of Captain	*19%*
Exceptionally high fare	*28%*
Rides get swapped mistakenly	*32%*

RECOMMENDATIONS AND LIMITATIONS

This clearly indicates that Application needs to improve its location services and need to make its fares more attractive to people because a higher fare means less profit, due to the base effect. Application companies also need to induce some stringent checks to ensure good quality ride from driver's side. It should compensate the customer for his/her ride is cancelled due to driver's fault or due to technical issues. Finally, there is a technical flaw in some ride-sharing

applications, which makes them swap rides inappropriately under workload conditions. This, in turn, reduces the efficiency of the whole system, customer's experience quality and company profit. These problems once resolved will further lead to the growth of the sector.

Way Forward

Although launched recently, these ride-sharing applications have highlighted the tremendous growth and have reduced consumers resistant to avail its services. The customer traffic utilizing these applications is increasing day by day. In the light of such progress, improvement is required with this service so that a large customer base could be retained and value addition could be offered.

REFERENCES

Abrosimova, K. (2017). *What Technology Do You Need to Build a Taxi Booking App?* Retrieved from Yalantis: https://yalantis.com/blog/uber-expertise-taxi-booking-mobile-app-development/.

Ansari, N. (2016, Feb 27). *Is Uber in Pakistan risky or convenient?* Retrieved 2016, from The Express Tribune Blogs: https://blogs.tribune.com.pk/story/32597/is-uber-in-pakistan-risky-or-convenient/

Dambrine , B., Jerome, J., & Ambrose, B. (2015). *User Reputation:Building Trust and Addressing Privacy Issues in the Sharing Economy.* Future Of Privacy forums.

Fakhr El-Din, E. (2016). The Experience of Passenger Transport start-up in Greater Cairo. The American University in Cairo:School of Global Affairs and Public Policy .

Munir, S. (2016, september 23). *Uber driver reportedly harassed and threatened a female passenger in Karachi.* Retrieved from Techjuice: https://www.techjuice.pk/uber-driver-reportedly-harassed-and-threatened-a-female-passenger-in-karachi/

Nicoll, E., & Amstrong, S. (2016). *Ride-sharing: The rise of innovative transportation services.* Retrieved from MaRs: https://www.marsdd.com/news-and-insights/ride-sharing-the-rise-of-innovative-transportation-services/

Tahir, M. (2017, july 14). *Careem's peak factor has left its users outraged.* Retrieved from Samaa TV:https://www.samaa.tv/pakistan/2017/07/careems-peak-factor-has-left-its-users-outraged/

Tech Desk. (2016, October 9). *Careem introduces Peak Time prices In Karachi.* Retrieved from The Express Tribune: https://tribune.com.pk/story/1196050/careem-introduces-peak-time-pricing-karachi/

Zafar, F., & Raja, A. (2016, December 12). *Year-end Review Uber or Careem Which Works Better Fror Pakistan?* Retrieved from Dawn: https://www.dawn.com/news/1301230/year-end-review-uber-or-careem-which-works-better-for-pakistan